US009159498B2

(12) **United States Patent**
Eweka

(10) **Patent No.: US 9,159,498 B2**
(45) **Date of Patent: Oct. 13, 2015**

(54) **PREPARATION OF ELECTRODE COMPOSITIONS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 219 days.

(21) Appl. No.: **13/813,284**

(22) PCT Filed: **Aug. 19, 2011**

(86) PCT No.: **PCT/GB2011/001233**

§ 371 (c)(1),
(2), (4) Date: **Jan. 30, 2013**

(87) PCT Pub. No.: **WO2012/025708**

PCT Pub. Date: **Mar. 1, 2012**

(65) **Prior Publication Data**

US 2013/0120908 A1 May 16, 2013

(30) **Foreign Application Priority Data**

Aug. 27, 2010 (GB) 1014317.0

(51) **Int. Cl.**
H01G 9/00 (2006.01)
H01G 9/04 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***H01G 9/058*** (2013.01); ***C01D 15/06*** (2013.01); ***H01G 11/06*** (2013.01); ***H01G 11/48*** (2013.01); ***H01G 11/50*** (2013.01); *Y02E 60/13* (2013.01)

(58) **Field of Classification Search**
USPC 361/502, 503–504, 509–512, 516–519, 361/523–525, 528–529
See application file for complete search history.

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(57) **ABSTRACT**

The invention relates to processes for the preparation of electrode compositions, especially those intended for use in supercapacitors. A process is provided for preparing lithium sulphite comprising the steps of:—a) introducing H_2SO_3 (aq) into a reaction vessel; b) reacting the H_2SO_3 (aq) with an aqueous suspension of Li_2CO_3 in the vessel to form an aqueous solution of Li_2—CO_3; and c) evaporating the solution to recover Li_2CO_3(s), wherein at least steps a) and b) are conducted under an inert atmosphere. Preferably, in step b) H_2SO_3 (aq) and Li_2CO_3 (aq) are reacted with each other in substantially equimolar amounts. There is also provided a process for forming an electrode material comprising a complexing step of causing lithium sulphite to form SO_3 complexes at active N sites of a nitrogen-carbon structure, in the presence of a selected amount of a sink that absorbs the liberated lithium, so as to form the N:SO_3 complexed electrode material. Preferably, the nitrogen-carbon structure is thermally restructured polyacrylonitrile (TR-PAN) or a copolymer thereof.

10 Claims, 6 Drawing Sheets